Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

trograph of the Lick Observatory, Professor VOGEL'S new Potsdam spectrograph, or Dr. GILL'S spectrograph for the Cape Observatory, could not have been included; but for this the book was published just a little too soon.

A brief statement of the theory of resolving power, as developed by Lord RAYLEIGH, would have been very useful as a guiding principle, which is totally lacking in the chapter, and would have shown at once the practical uselessness of some of the forms of spectroscopes described.

The chapter on photometers, on the other hand, is especially valuable. Here the different forms of photometers used in astrophysical research are brought together in a most convenient form for reference.

Occasional mistakes can be found. Fig. 1160, which purports to represent the moving floor of the Lick Observatory, is a design which was proposed, but not adopted; but such mistakes as this would naturally be made by one who is not personally familiar with all the instruments described, and they are few in number. It is hardly necessary to say that Dr. AMBRONN'S valuable book should be found in the library of every observatory.

J. E. KEELER.

PLANETARY PHENOMENA FOR JULY AND AUGUST, 1900.

By MALCOLM MCNEILL.

JULY.

The Earth is in aphelion at 4 A. M., July 2d, P. S. T.

Mercury is an evening star throughout the month, and comes to greatest east elongation on the morning of July 4th. During the first half of the month it will set an hour or more after sunset. After the middle of the month, it will be too close to the Sun to be seen, and it reaches conjunction with the Sun on the night of July 31st-August 1st. The present elongation, 26°, is greater than that in March, by 8°, as it comes very near the time when the planet is in aphelion, July 13th, while that in March was about the same interval from perihelion. The fact that at the July elongation the planet is south of the Sun, while the reverse was true in March, makes a considerable offset in the interval between the setting of the Sun and the planet; but, on the whole, the July elongation affords the best opportunity of the year for evening observation.

Venus passes inferior conjunction with the Sun on the morning of July 8th, and changes from an evening to a morning star. It is still moving westward among the stars, and this motion, combined with the eastward motion of the Sun, causes a rapid separation of the bodies, so that by July 20th the planet rises more than an hour before sunrise, and about twice that on July 31st, and it will be an easy object to see. On July 29th the planet begins to move eastward again among the stars.

Mars rises earlier, and has begun to increase in brightness. It moves 23° eastward among the stars in *Taurus*, and on July 10th passes about 5° north of the first-magnitude red star *Aldebaran.*

Jupiter remains above the horizon until after midnight. It moves westward about 1° until July 29 in the constellation *Scorpio* near the third-magnitude star *β Scorpii*, the time of nearest approach being July 5th, when the planet is 15′ south of the star.

Saturn is in fine position for observation, being above the horizon until long after midnight. It moves westward about 2° in the constellation *Sagittarius*, north and west of the handle of the Dipper. On the night of July 10th, it will again be occulted by the Moon, the occultation occurring before midnight in the Eastern States, and earlier in the evening in the Western States.

Uranus is still near *Jupiter* in *Scorpio*, about 7° east.

Neptune moves about 1° east near the border line of *Gemini* and *Taurus.*

AUGUST.

Mercury passes inferior conjunction at the beginning of the month, and moves rapidly out toward greatest west elongation, which it reaches on August 19th. After August 10th, it rises more than an hour before sunrise, and may be seen in the early morning twilight.

Venus is morning star. It moves eastward among the stars about 16°, while the Sun moves nearly double that amount; so the distance between the two is increased about 12°, and the interval between the rising of the planet and sunrise increases to about three and one half hours. The planet will be very brilliant all through the month, reaching the maximum on August 14th, and may be seen by daylight with the naked eye.

Mars rises half an hour earlier than during July. It moves about 22° eastward during the month, from the constellation *Taurus* into *Gemini*, and at the end of the month is a little west of *Castor and Pollux*, the three making nearly a right-angled triangle, with the right angle at *Pollux*, the southern star.

Jupiter remains in good position for observation in *Scorpio*, not setting until late in the evening. It resumes its eastward journey among the stars at the end of July, and during August moves about 2°. It again passes the third-magnitude star *β Scorpii* on August 22d, the southward distance of the planet being 26′, nearly twice as great as it was at the July approach. Its eastward path will be in general about half a degree south of the line it pursued while retrograding.

Saturn remains in *Sagittarius*, moving westward about 1°, and is above the horizon until nearly morning. As the rings are now at about their maximum opening, the planet presents perhaps its finest view in the telescope.

Uranus is still in about the same position, nearly stationary in *Scorpio*. The motion of *Jupiter* is bringing it back toward *Uranus*, and at the end of the month the latter is about 6° east of the former.

Neptune moves about 1° east on the border of *Taurus* and *Gemini*.

JULY-AUGUST, 1900.

PHASES OF THE MOON, P. S. T.

First Quarter . . .	July 4,	$4^h 14^m$	P. M.
Full Moon	July 12,	5 22	A.M.
Last Quarter . . .	July 18,	9 31	P. M.
New Moon	July 26,	5 43	A.M.
First Quarter . . .	Aug. 3,	8 46	A.M.
Full Moon	Aug. 10,	1 30	P. M.
Last Quarter . . .	Aug. 17,	3 46	A.M.
New Moon	Aug. 24,	7 53	P. M.

THE SUN.

1900.	R. A.	Declination.	Rises.	Transits.	Sets.
July 1,	$6^h 40^m$	+ 23° 8′	$4^h 40^m$ A.M.	12^h 4^m P.M.	$7^h 28^m$ P.M.
11,	7 21	+ 22 9	4 45	12 5	7 25
21,	8 1	+ 20 32	4 53	12 6	7 19
Aug. 1,	8 45	+ 18 5	5 3	12 6	7 9
11,	9 23	+ 15 21	5 11	12 5	6 59
21,	10 0	+ 12 12	5 21	12 3	6 45
31,	10 37	+ 8 43	5 30	noon	6 30

1900.	R. A.	Declination.	Rises.	Transits.	Sets.
MERCURY.					
July 1,	8^h 30^m	+ 19° 31′	6^h 44^m A.M.	1^h 53^m P.M.	9^h 2^m P.M.
11,	9 1	+ 15 20	6 52	1 45	8 38
21,	9 5	+ 12 40	6 25	1 9	7 53
Aug. 1,	8 38	+ 13 25	5 14	noon	6 46
11,	8 21	+ 16 18	4 7	11 4 A.M.	6 1
21,	8 48	+ 17 33	3 49	10 50	5 51
31,	9 52	+ 14 30	4 25	11 15	6 5
VENUS.					
July 1,	7 25	+ 19 18	5 40 A.M.	12 48 P.M.	7 56 P.M.
11,	6 58	+ 17 54	4 40	11 43 A.M.	6 46
21,	6 37	+ 17 5	3 43	10 42	5 41
Aug. 1,	6 32	+ 17 0	2 54	9 53	4 52
11,	6 43	+ 17 22	2 25	9 25	4 25
21,	7 5	+ 17 43	2 7	9 8	4 9
31,	7 36	+ 17 42	1 58	8 59	4 0
MARS.					
July 1,	4 4	+ 20 32	2 14 A.M.	9 27 A.M.	4 40 P.M.
11,	4 33	+ 21 51	2 0	9 18	4 36
21,	5 3	+ 22 49	1 46	9 8	4 30
Aug. 1,	5 35	+ 23 30	1 33	8 58	4 23
11,	6 4	+ 23 45	1 19	8 46	4 13
21,	6 33	+ 23 41	1 9	8 35	4 1
31,	7 1	+ 23 18	1 0	8 24	3 48
JUPITER.					
July 1,	16 1	− 19 49	4 33 P.M.	9 23 P.M.	2 13 A.M.
Aug. 1,	15 56	− 19 43	2 26	7 16	12 6
Sept. 1,	16 3	− 20 10	12 34	5 22	10 10 P.M.
SATURN.					
July 1,	18 5	− 22 28	6 48 P.M.	11 27 P.M.	4 6 A.M.
Aug. 1,	17 57	− 22 32	4 37	9 16	1 55
Sept. 1,	17 53	− 22 36	2 32	7 11 P.M.	11 50 P.M.
URANUS.					
July 1,	16 31	− 21 49	5 10 P.M.	9 52 P.M.	2 34 A.M.
Aug. 1,	16 27	− 21 43	3 6	7 48	12 30
Sept. 1,	16 27	− 21 43	1 4	5 46	10 28 P.M.

NEPTUNE.

1900.	R. A.	Declination.	Rises.	Transits.	Sets.
July 1,	$5^h 48^m$	+ 22° 14′	$3^h 52^m$ A.M.	$11^h 12^m$ A.M.	$6^h 32^m$ P.M.
Aug. 1,	5 52	+ 22 14	1 54	9 14	4 34
Sept 1,	5 56	+ 22 14	11 55 P.M.	7 15	2 35

ECLIPSES OF *JUPITER'S* SATELLITES, P. S. T.

(Off right-hand limb as seen in an inverting telescope.)

II,	R,	July	1,	$7^h 41^m$ P.M.
I,	R,		1,	11 33
I,	R,		3,	6 2
III,	D,		6,	6 59
III,	R,		6,	8 50
II,	R,		8,	10 18
I,	R,		9,	1 28 A.M.
I,	R,		10,	7 56 P.M.
III,	D,		13,	10 57
III,	R,		14,	12 50 A.M.
II,	R,		16,	12 56
I,	R,		17,	9 51 P.M.
I,	R,		24,	11 46
II,	R,		26,	4 53
I,	R,		26,	6 14
II,	D,	Aug.	2,	$5^h 3^m$ P.M.
II,	R,		2,	7 31
I,	R,		2,	8 9
II,	D,		9,	7 41
I,	R,		9,	10 4
II,	R,		9,	10 9
II,	D,		16,	10 18
II,	R,		17,	12 47 A.M.
III,	D,		18,	6 50 P.M.
III,	R,		18,	8 50
I,	R,		25,	8 22
II,	R,		27,	4 43